REMARKS

This paper is being provided in response to the July 26, 2004 Final Office Action for the above-referenced application. In this response, Applicants have made minor modifications to the specification consistent with the originally-filed drawings and amended Claims 1, 4, 21, 22, and 29-31 in order to clarify that which Applicants deem to be the claimed invention. Applicants respectfully submit that the changes to the specification do not add new matter and that the amendments to the claims are all supported by the originally filed application.

Applicants thank the examiner for indicating the allowability of the subject matter of claims 29-31. In this response, Applicants have rewritten those claims in independent form to include the features of claims from which those claims depend. Accordingly, Applicants respectfully submit that claims 29-31 are in condition for allowance.

The rejection of Claims 1-28 under 35 U.S.C. § 103(a) as being unpatentable over Cho et al. (U.S. Patent No. 6,674,250 B2, hereinafter referred to as "Cho") in view of Nakada et al. (U.S. Patent No. 6,657,396 B2, hereinafter referred to as "Nakada") is hereby traversed and reconsideration thereof is respectfully requested. Applicant respectfully submits that Claims 1-28, as amended herein, are patentable over the cited references, taken separately or in combination.

Applicant's Claim 1, as amended herein, recites a fluorescent lamp including a first substrate, a second substrate which is arranged so as to face the first substrate, a discharge gas which is sealed between the first substrate and the second substrate, and a plurality of discharge electrodes having discharge projections which are arranged on the first substrate and/or the

second substrate. The fluorescent lamp emits light by causing electric discharge in different areas alternated in accordance with the discharge projections and voltages applied to the plurality of discharge electrodes. The projections and the discharge electrodes are recited as being substantially coplaner and the projections are recited as extending from the discharge electrodes in a direction different from a longitudinal axis of the discharge electrodes Claims 2-20 depend from Claim 1.

Claim 21, as amended herein, recites a method of emitting light from a lamp (back light) in which a discharge gas is sealed, and first and second discharge electrodes are formed. Electric discharge is caused in first discharge areas between the first and second discharge electrodes in accordance with discharge projections of the first discharge electrodes by applying a voltage having a negative polarity to the first discharge electrodes and a voltage having a positive polarity to the second discharge electrodes, and converting ultraviolet rays caused by the electric discharge into visible light through a phosphor. Electric discharge is caused in second discharge areas which are different from the first discharge areas at least partially and which are between the first and second discharge electrodes in accordance with discharge projections of the second discharge electrodes by applying a voltage having a positive polarity to the first discharge electrodes and a voltage having a negative polarity to the second discharge electrodes, and converting ultraviolet rays caused by the electric discharge into visible light through the phosphor. The causing electric discharge in the first discharge areas and the causing electric discharge in the second discharge areas are controlled so as to be repeated. The projections and the discharge electrodes are recited as being substantially coplaner and the projections are recited as extending from the discharge electrodes in a direction different from a longitudinal axis of the discharge electrodes Claims 23, 25, and 27 depend from Claim 21.

Claim 22, as amended herein, recites a method of emitting light from a lamp (back light) in which a discharge gas is sealed, and first discharge electrodes, second discharge electrodes, and third discharge electrodes are formed. An electric discharge is caused in first discharge areas between the first and second discharge electrodes in accordance with discharge projections of the second discharge electrodes by applying a drive voltage of a positive potential to one of the first and second discharge electrodes and a drive voltage of a negative potential to the other of the first and second discharge electrodes, and converting ultraviolet rays caused by the electric discharge into visible light through a phosphor. Electric discharge is caused in second discharge areas which are different from the first discharge areas at least partially and which are between the first and third discharge electrodes in accordance with discharge projections of the third discharge electrodes by applying a drive voltage of a positive potential to one of the first and third discharge electrodes and a drive voltage of a negative potential to the other of the first and third discharge electrodes, and converting ultraviolet rays caused by the electric discharge into visible light via the phosphor. The causing electric discharge in the first discharge areas and the causing electric discharge in the second discharge areas are controlled so as to be repeated. The projections and the discharge electrodes are recited as being substantially coplaner and the projections are recited as extending from the discharge electrodes in a direction different from a longitudinal axis of the discharge electrodes Claims 24, 26 and 28 depend from Claim 22.

Cho relates to a fluorescent lamp with external electrodes and a backlight luminaire, and more particularly to a backlight including an external fluorescent lamp in which the external electrodes are installed at both ends of the fluorescent lamp. (Col. 1, Lines 17-21). Cho discloses a backlight source that includes edge backlight sources (Figure 2) and direct light arrangements

(Figures 3 and 4). Cho discloses a backlight source including an upper substrate, a lower substrate, external electrode fluorescent lamps installed at a predetermined interval above the lower substrate, electrodes formed at the corresponding outer surfaces on both sides of the assembled upper and lower substrates, respectively, and connected to the electrode connecting lines to which an alternating current type power source is applied, a switching inverter, and a discharge gas injected into the inner space upon sealing the upper and lower substrates. (Col. 5, Lines 17-35; Col 10, Line 20-Col 11. Line 1; Figures 6a-b). Each of the fluorescent lamps includes a glass tube into which a discharge gas is injected. Each lamp includes external electrodes formed at opposite ends of a sealed glass tube. (Col. 1, Lines 48-65; Figure 1).

Nakada discloses an alternating current driven type plasma display device having a characteristic feature in a dielectric material layer and a method for the production thereof. (Col. 1, Lines 8-11). Nakada discloses a first panel 10 that includes a plurality of pairs of sustain electrodes 12 extending in a first direction with bus electrodes 13 formed along edge portions of the sustain electrodes 12. (Col. 23, Lines 11-24; Figure 1). A second panel 20 includes address electrodes 22 extending in a second direction crossing the first direction at right angles. (Col. 1, Lines 54-60). The plasma display device is assembled using a frit glass layer formed on a portion of the second panel and then bonding the first and second panels to each other. The space formed between the first and second panels is vacuumed and then charged with a Ne-Xe mixed gas. (Col 24, Lines 9-16).

Applicants respectfully submit that the features claim 1, as amended herein, are neither shown, taught, nor suggested by Cho, Nakada, or any combination thereof. In this regard, Applicants note that the bottom of page 2 of the Office Action indicates that Cho fails to teach

electrodes having discharge projection. The Office Action goes on to state that Nakada, et al. teaches electrodes having discharge projections. However, Applicants respectfully submit that, to the extent Nakada discloses any projections from the discharge electrodes, those projections are not both substantially co-planer with the discharge electrodes and extend in a direction different from a longitudinal axis access of the discharge electrodes. Rather, Nakada appears to disclose relatively straight and even electrodes. For example, the electrodes in Figures 14, 15 and 16 of Nakada do not show any projections that extend in a direction different from a longitudinal axis of the electrodes while, at the same time, being substantially co-planer with the discharge electrodes (i.e., in the plane of the paper four figures 14, 15, and 16). Accordingly, applicants respectfully submit that neither Cho, nor Nakada, nor any combination thereof, show, teach, or suggest the projections as recited in claim 1, as amended herein.

The advantages of the claimed electrode projections over the prior art are set forth in the present specification. As disclosed, when the electrodes are driven by an appropriate voltage, discharge is caused in areas formed between the projections. This provides the disclosed desirable result of more even lighting over the prior art.

As to independent claims 22 and 23, these claims recite projections like claim 1 that are substantially co-planer with the discharge electrodes and extend from the discharge electrodes in a direction different a longitudinal axis of the discharge electrodes. Accordingly, for reasons similar to those given above with respect to claim 1, Applicants respectfully submit that claims 22 and 23, as amended herein, are patentable over the cited references of Cho and Nakada, whether taken alone or in any combination.

In view of the foregoing, Applicant respectfully requests that this rejection be reconsidered and withdrawn.

Based on the above, Applicant respectfully requests that the Examiner reconsider and withdraw all outstanding rejections and objections. Favorable consideration and allowance are earnestly solicited. Should there be any questions after reviewing this paper, the Examiner is invited to contact the undersigned at 617-248-4038.

Respectfully submitted,
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